AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Currently amended). A method ~~of treating a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising the step of: ~~administering to said mammal~~ contacting hippocampal neurons with an amount of an isolated nucleic acid encoding full-length TrkB or any mutant, variant, homolog, or fragment thereof having the same activity as said full-length TrkB, whereby said amount of said isolated nucleic acid is sufficient to increase the amount of full-length TrkB in said neurons compared to untreated neurons.

Claim 2 (Currently amended). The method of Claim 1, wherein said nucleic acid encodes the amino acid sequence of SEQ ID NO: 2 ~~neuro-degenerative disorder or said neuro-developmental disorder is selected from the group consisting of Alzheimer's disease, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis (Lou Gehrig's disease), the adverse neurologic complications of Down syndrome, diabetic peripheral neuropathy and other types of peripheral neuropathy~~.

Claim 3 (Currently amended). The method of Claim 1, wherein said nucleic acid comprises the nucleotide sequence of SEQ ID NO: 1 ~~neuro-degenerative disorder or said neuro-developmental disorder is associated with an injury to the central or peripheral nervous system~~.

Claims 4-6 (Canceled).

Claim 7 (Currently amended). A method ~~of treating a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising the step of: ~~administering to said mammal~~ contacting hippocampal neurons with an amount of an isolated nucleic acid encoding anti-sense RNA for a truncated TrkB isoform, whereby said amount of said isolated nucleic acid is sufficient to decrease the amount of truncated TrkB in neurons compared to untreated neurons.

Claim 8 (Currently amended). The method of Claim 7, wherein said nucleic acid comprises a nucleotide sequence selected from the group consisting of SEQ ID NO: 21 and SEQ ID NO: 22 ~~neuro-degenerative disorder or said neuro-developmental disorder is selected from the group consisting of Alzheimer's disease, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis (Lou Gehrig's disease), the adverse neurologic complications of Down syndrome, diabetic peripheral neuropathy and other types of peripheral neuropathy~~.

Claims 9-12 (Canceled).

Claim 13 (Currently amended). A method ~~of inhibiting the progression of a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising the step of:

~~Administering~~ contacting hippocampal neurons with an amount of a vector ~~to said mammal whereby said amount of said vector is~~ sufficient to alter the ratio of amount of full-length TrkB polypeptide to truncated TrkB polypeptide in a neuron ~~and whereby said vector comprises an isolated nucleic acid~~.

Claim 14 (Currently amended). The method of Claim 13, wherein said vector comprises a ~~isolated~~ nucleic acid ~~is~~ selected from the group consisting of ~~an isolated~~ a nucleic acid encoding ~~for~~ full-length TrkB, ~~an isolated~~ a nucleic acid encoding ~~for~~ anti-sense RNA for truncated TrkB, and ~~isolated~~ a nucleic acid encoding ~~for~~ full-length TrkB and for anti-sense RNA for truncated TrkB.

Claim 15 (Original). The method of Claim 13, wherein said vector is selected from the group consisting of a virus and a plasmid.

Claim 16 (Original). The method of Claim 15, wherein said virus is selected from the group consisting of a herpesvirus, adenovirus, adeno associated virus, retrovirus, vacccinia virus, and canary pox virus.

Claim 17 (Currently amended). A The method of claim 14, wherein said nucleic acid comprises a nucleotide sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 19, and SEQ ID NO: 20 ~~for treating a disease in a mammal characterized by an increased ratio of the amount of truncated TrkB polypeptides to the amount of full-length TrkB polypeptide in a cell as compared to said ratio in a healthy mammal, said method comprising~~

~~administering an amount of a vector to said mammal whereby said amount of said vector is sufficient to alter said ratio of amount of truncated TrkB polypeptide to the amount of full-length TrkB polypeptide in said cell, and whereby said vector comprises an isolated nucleic acid~~.

Claim 18 (Currently amended). The method of Claim 14, wherein said nucleic acid comprises a nucleotide sequence encoding the amino acid sequence of SEQ ID NO: 2 ~~17, wherein said isolated nucleic acid is selected from the group consisting of an isolated nucleic acid encoding for full-length TrkB, an isolated nucleic acid encoding for anti-sense RNA for truncated TrkB, and isolated nucleic acid encoding for full-length TrkB and for anti-sense RNA for truncated TrkB~~.

Claims 19-20 (Canceled).

Claim 21 (Currently amended). A method ~~of treating a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising: ~~administering to said mammal~~ contacting hippocampal neurons with an amount of an isolated nucleic acid encoding full-length TrkC or any mutant, variant, homolog, or fragment thereof having the same activity as said full-length TrkC, whereby said amount of said isolated nucleic acid is sufficient to increase the amount of full-length TrkC in said neurons compared to untreated neurons.

Claim 22 (Currently amended). The method of Claim 21, wherein said nucleic acid encodes the amino acid sequence of SEQ ID NO: 10 ~~neuro-degenerative disorder or~~

~~said neuro-developmental disorder is selected from the group consisting of Alzheimer's disease, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis (Lou Gehrig's disease), the adverse neurologic complications of Down syndrome, diabetic peripheral neuropathy and other types of peripheral neuropathy~~.

Claim 23 (Currently amended). The method of Claim 22, wherein said nucleic acid comprises the nucleotide sequence of SEQ ID NO: 9 ~~21, wherein said neuro-degenerative disorder or said neuro-developmental disorder is associated with an injury to the central or peripheral nervous system~~.

Claims 24-26 (Canceled).

Claim 27 (Currently amended). A method ~~of treating a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising: ~~administering to said mammal~~ contacting hippocampal neurons with an amount of an isolated nucleic acid encoding anti-sense RNA for a truncated TrkC isoform, whereby said amount of said isolated nucleic acid is sufficient to decrease the amount of truncated TrkC in said neurons compared to untreated neurons.

Claim 28 (Currently amended). The method of Claim 27, wherein said nucleic acid comprises a nucleotide sequence selected from the group consisting of SEQ ID NO: 21 and SEQ ID NO: 22 ~~neuro-degenerative disorder or said neuro-developmental disorder is selected from the group consisting of Alzheimer's disease, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis (Lou Gehrig's disease),~~

~~the adverse neurologic complications of Down syndrome, diabetic peripheral neuropathy and other types of peripheral neuropathy~~.

Claims 29-32 (Canceled).

Claim 33 (Currently amended). A method ~~of inhibiting the progression of a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising ~~administering~~ contacting hippocampal neurons with an amount of a vector ~~to said mammal whereby said amount of said vector is~~ sufficient to alter the ratio of amount of full-length TrkC polypeptide to truncated TrkC polypeptide in a neuron~~, and whereby said vector comprises an isolated nucleic acid~~.

Claim 34 (Currently amended). The method of Claim 33, wherein said ~~isolated~~ vector comprises a nucleic acid is selected from the group consisting of ~~an isolated~~ a nucleic acid encoding ~~for~~ full-length TrkC, ~~an isolated~~ a nucleic acid encoding ~~for~~ anti-sense RNA for truncated TrkC, and ~~isolated~~ a nucleic acid encoding ~~for~~ full-length TrkC and ~~for~~ anti-sense RNA for truncated TrkC.

Claim 35 (Original). The method of Claim 33, wherein said vector is selected from the group consisting of a virus and a plasmid.

Claim 36 (Original). The method of Claim 35, wherein said virus is selected from the group consisting of a herpesvirus, adenovirus, adeno associated virus, retrovirus, vacccinia virus, and canary pox virus.

Claim 37 (Currently amended). A method ~~for treating a disease in a mammal characterized by an increased ratio of the amount of truncated TrkC polypeptides to the amount of full-length TrkC polypeptide in a cell as compared to said ratio in a healthy mammal, said method~~ comprising ~~administering~~ contacting hippocampal neurons with an amount of a vector ~~to said mammal whereby said amount of said vector is~~ sufficient to alter ~~said~~ the ratio of the amount of truncated TrkC polypeptide to the amount of full-length TrkC polypeptide in said ~~cell~~ neurons~~, and whereby said vector comprises an isolated nucleic acid~~.

Claim 38 (Currently amended). The method of Claim 37, wherein said ~~isolated~~ vector comprises a nucleic acid is selected from the group consisting of ~~an isolated~~ a nucleic acid encoding ~~for~~ full-length TrkC, ~~an isolated~~ a nucleic acid encoding ~~for~~ anti-sense RNA for truncated TrkC, ~~and isolated~~ a nucleic acid encoding ~~for~~ full-length TrkC and ~~for~~ anti-sense RNA for truncated TrkC.

Claim 39 (Original). The method of Claim 37, wherein said vector is selected from the group consisting of a virus and a plasmid.

Claim 40 (Original). The method of Claim 39, wherein said virus is selected from the group consisting of a herpesvirus, adenovirus, adeno associated virus, retrovirus, vacccinia virus, and canary pox virus.

Claim 41 (Currently amended). A method ~~of inhibiting the progression of a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising the step of:

~~administering~~ contacting hippocampal neurons with an amount of a polypeptide encoded by a nucleic acid encoding full-length TrkB, or any mutant, variant, homolog, or fragment thereof having the same activity as full-length TrkB, ~~whereby~~ wherein said amount of said polypeptide increases the amount of full-length TrkB in ~~a neuron~~ said neurons.

Claim 42 (Currently amended). The method of Claim 41, further comprising ~~administering~~ contacting said neurons with a neurotrophin ~~to said mammal~~.

Claim 43 (Currently amended). A ~~method of inhibiting the progression of a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising the step of:

~~administering~~ contacting hippocampal neurons with an amount of a polypeptide encoded by a nucleic acid encoding full-length TrkC, or any mutant, variant, homolog, or fragment thereof having the same activity as full-length TrkC, ~~whereby~~ wherein said amount of said polypeptide increases the amount of full-length TrkC in ~~a neuron~~ said neurons.

Claim 44 (Currently amended). The method of Claim 43, further comprising ~~administering~~ contacting said neurons with a neurotrophin ~~to said mammal~~.

Claim 45 (Currently amended). A method ~~of inhibiting the progression of a neuro-degenerative disorder or a neuro-developmental disorder in a mammal, said method~~ comprising the step of:

~~administering~~ contacting hippocampal neurons with an amount of the combination of a first polypeptide encoded by a nucleic acid encoding full-length TrkB, or any mutant, variant, homolog, or fragment thereof having the same activity as full-length TrkB, whereby said amount of said first polypeptide increases the amount of full-length TrkB in ~~a neuron~~ said neurons; and a second polypeptide encoded by a nucleic acid encoding full-length TrkC, or any mutant, variant, homolog, or fragment thereof having the same activity as full-length TrkC, whereby said amount of said second polypeptide increases the amount of full-length TrkC in ~~a neuron~~ said neurons.

Claim 46 (Currently amended). The method of Claim 45, further comprising ~~administering~~ contacting said neurons with a neurotrophin ~~to said mammal~~.

Claims 47-54 (Canceled).